

## WATER-BIRDS OF JAPAN.

By T. W. BLAKISTON.

If for no other reason, the publication in Bulletin No. 29 of the United States National Museum (Washington, 1885), of Mr. Stejneger's careful study of the birds of Kamtschatka and the adjacent Commander Islands, demands a further revision of the Japan list,\* especially among the water-birds, so many of which are common to the two countries. Without any desire to anticipate Mr. Stejneger in those valuable contributions to the ornithology of Japan that he is now engaged upon, and which are appearing in successive papers in the Proceedings of the United States National Museum, entitled "Review of Japanese Birds,"† it is, on the contrary, with his full concurrence and assistance that the present list and notes are given, with a view perhaps as much to exhibit the deficiencies in our information, and thereby draw the attention of working ornithologists in Japan to questions which can only be solved through their exertions, as to bring up to date our positive knowledge on the subject.

Of the two tables here given, the first includes all the water-birds of Japan, embracing the Kurils, Bonins, and other outlying islands, so far as at present known. The total, inclusive of some doubtful records, is 94, of which about one-third are fresh-water species. The table has been arranged in four columns, in order to exhibit at a glance the geographical regions to which the birds belong, or rather their range; those under circumpolar being common to both the Atlantic and Pacific Oceans, or the Eurasian and American continents; palæartic, being found on both sides, or extending across the Old World; Eastern Asiatic, confined to the eastern part of that continent; and Pacific, such as occur on both the eastern and western shores of that ocean, but not elsewhere.

While Japan exhibits a fair share in the water-birds which range around the arctic and north-temperate region, as shown in the first column, those belonging to the Eurasian continent and its waters, which the second and third columns taken together embrace, outnumber by one-half such as reach the American continent enumerated in the fourth column. This, from the position of the Japan Islands, is what might have been expected when fresh-water and marine species are taken together; but when a separation is made it will be found that this preponderance is due entirely to the great proportion of fluviatile or fresh-

\* See (1) Catalogue of the Birds of Japan, *Ibis*, 1873; (2) Catalogue of the Birds of Japan, *Trans. As. Soc. Japan*, viii, 1880; (3) Catalogue of the Birds of Japan, *Trans. As. Soc., Japan*, x, 1882; (4) Amended List of the Birds of Japan, London, January, 1884.

† Sec. 1, The Woodpeckers, *Proc. U. S. Nat. Mus.*, 1886, p. 99, *et seq.*

water palæarctic species, while Pacific forms largely predominate among the sea-birds proper. Indeed, there are but four or five of the American species which can be considered fluviatile, even by stretching that term, and one of them, *Anser albifrons gambeli*, is a sub-species at best. On the other hand, of birds of the Atlantic, and not circumpolar, but three gulls reach Japan, and one of these may possibly prove to be an Eastern representative of the true European species. The rest are peculiar to the Pacific Ocean, two-thirds of them being found on its American side. We thus see that so far as the water-birds are concerned Japan is, in its fresh-water inhabitants, Eurasian, and in its marine, Asia-Pacific. We learn nothing from this result, however, but that Japan is in its right place, or rather that, considering its position, its water-ornis is as it should be.

The second table, prepared so far as materials at hand will permit, exhibits the distribution of sea-birds peculiar to the North Pacific. The middle column, which enumerates those whose range extends across that ocean, is really no more than column four of the other table—the fresh-water species being omitted—with one bird in addition inhabiting the peninsula of Kamtschatka, which is not as yet known in Japan. It is instructive in that it shows that the most northern species are nearly all found on both sides, as might have been expected, owing to the near approach of the two continents in the north and their wide divergence southwards, while of the southern there are, when distinct, usually allied species representing the absent ones, and forming a corresponding marine avifauna. This, although not strictly true, is sufficiently so for general comparison; therefore it has been considered as well to make the following notes of reference, not only to draw attention to the exceptions, but to give the authorities for some of the determinations of species and sub-species which now stand under names differing from these hitherto used in published lists of Japan birds.

It will be observed that the number of birds peculiar to the American coast is more than double those of the Asiatic side. This is, perhaps, in great part due to the ornithology of the former having been much more fully worked up than that of the western side; for when we consider the extensive range in latitude of the Japanese Islands, from Cape Lopatka, at the extremity of Kamtschatka, to the Liu-Kius and Bonins, on the verge of the tropics, it cannot be doubted that there is a great field for zoological research, well worthy of more particular investigation than has yet been bestowed upon it.

So far Japan has been spoken of as a whole, and, while it has not been considered necessary to analyze very particularly the outside range of its water-birds, as those of Kamtschatka, which so nearly agree, have been fully gone into by Mr. Stejneger in his "Conclusions," forming Part III of his "Ornithological Explorations,"\* it may be as well

\* Bull. No. 29, U. S. Nat. Mus., 1885, pp. 332-359.

to remind readers of this paper that the chain of islands forming that country politically, can by no means be considered so homogeneous zoologically; nor would it be in reason to do so, even did we not know that while the resident fauna of the main or middle island is, to a considerable extent peculiar, that of Yezo is mostly Siberian, while the Bonins and Liu-Kins produce some local forms, in the latter mingled with Formosan or Chinese. Moreover, we find an indication of some degree of peculiarity attaching to the southwestern portion of the main island and Kíúshiu, which adjoins it, with a trace—in birds, at least—of Chinese. Besides this, it is noticeable that *some* migratory birds—non-oceanic—have been found on the Kurils and Yezo, but not on the main or southern islands; and as these are species which summer in Kamtschatka and winter in China, their non-occurrence south of the Strait of Tsugaru might indicate a line of migration across the Sea of Japan from Yezo to the mainland of the continent, possibly an ancient migration route. This seems, however, far from probable, for we know of other birds which do migrate along the Kurils (from Kamtschatka?) which pass through the whole of Japan. Mr. Stejneger has enlarged upon the absence of certain Japan birds in Kamtschatka, and the occurrence there of continental species unknown in Japan (speaking, of course, of migratory birds), and he is no doubt right in believing that the bare volcanic Kurils would not be a favorite route for many kinds. In addition, it must be borne in mind that such a line is not a direct route northwards from Japan, for the Kurils stretch off northeastward, while a due north line runs from Yezo, through Sakhalin, to the mouth of the Amur, and is over wooded land. This would be the most natural one, even supposing the Kuril Islands to have existed from a remote geological period, which is contrary to the opinions held by geologists. Moreover, Mr. Stejneger has shown it to be probable that certain birds reach Kamtschatka from the region south of Lake Baikal, while some others which pass along the western shore of the Okhotsk Sea do not penetrate Kamtschatka, but continue their journey north and east of it, *because it is a peninsula* with its point to the southward. It is probable, therefore, that few birds take the line of the Kurils as a migration route, although this is, from the scanty material at hand, little more than speculation, and should not perhaps have been entered into, save to draw the attention of collectors to the necessity of securing specimens from all localities and submitting them for careful identification, in order that those finely-drawn characters which sometimes distinguish races of the same species may be discovered, and lead to precise conclusions on the interesting subjects of migration and distribution.

## (1) DISTRIBUTION OF THE WATER-BIRDS OF JAPAN.\*

	Circumpolar.	Palaearctic.	East Asiatic.	Pacific.
14	<i>Colymbus auritus</i> LINN. = <i>cornutus</i> G MEL.	<i>Colymbus cristatus</i> LINN. = <i>minutus</i> (LATH.), = <i>nigricollis</i> (BEHM), = <i>aurillus</i> (BRISSON).	7 <i>Synthliboramphus wumizusume</i> (TEMM.).	2 <i>Larus cirrhata</i> PALL.
18	<i>Urimator arcticus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	10 <i>Cephalus carbo</i> PALL.	3 <i>Fracinula corniculata</i> NAUM.
18½	<i>adamsii</i> (GRAY).	<i>Olor erygnus</i> (LINN.).	22½ <i>Anser segetum middendorffi</i> (SEV.).	4 <i>Simothynchus cristatus</i> (PALL.), = <i>pusillus</i> (PALL.).
19	<i>humme</i> (GUNN.).	<i>Olor erygnus</i> (LINN.).	26 <i>Anser segetum middendorffi</i> (SEV.).	5 <i>Simothynchus cristatus</i> (PALL.), = <i>pusillus</i> (PALL.).
27	<i>Chen hyperborea</i> (PALL.).	<i>Olor erygnus</i> (LINN.).	31 <i>Anser segetum middendorffi</i> (SEV.).	6 <i>Cycolerthynchus psittaculus</i> (PALL.).
30	<i>Anas boschas</i> LINN.	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	5½ <i>Cycolerthynchus psittaculus</i> (PALL.).
36	<i>Dafila acuta</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	13 <i>Certhiica monocerata</i> (PALL.).
41	<i>Spatula clypeata</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	8 <i>Synthliboramphus antiquus</i> (G MEL.).
42	<i>Cham-inanus streperus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	9 <i>Brachyramphus kitchinii</i> BRANDT.
48	<i>Histonionus histonionus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	10½ <i>Cephalus columba</i> PALL.
48	<i>Histonionus histonionus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	11 <i>Uria troile californica</i> (BRYAN).
50	<i>Clangula hymenalis</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	12 <i>Uria troile californica</i> (BRYAN).
51	<i>Eniconetta stelleri</i> (PALL.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	15½ <i>Colymbus holboellii</i> (LENNI.).
56	<i>Merganser serrator</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	24 <i>Anser albifrons gambeli</i> (HAETL.).
57	<i>Phalacrocorax carbo</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	28 <i>Branta canadensis hutchinsii</i> (SW. & RICH.).
60½	<i>Sula sula</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	29 <i>Branta nigricans</i> (LAWR.).
61	<i>Sterna fuliginosa</i> (BODD.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	53 <i>Oidemia americana</i> (SW. & RICH.).
61½	<i>Sterna fuliginosa</i> G MEL.	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	58 <i>Phalacrocorax urile</i> (G MEL.).
68	<i>Adans stolidus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	59 <i>Larus glaucus</i> PALL. = <i>leucistatus</i> (TEMM.) = <i>leucistatus</i> (TEMM.) & SCHLEG.
71	<i>Larus glaucus</i> BRUNN.	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	67 <i>Larus glaucescens</i> NAUM.
74½	<i>Stercorarius longicaudus</i> VIEILL. = <i>leucostriatus</i> (BOIE).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	68 <i>Larus glaucus</i> PALL.
75	<i>Stercorarius longicaudus</i> VIEILL. = <i>leucostriatus</i> (BOIE).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	70 <i>schistisagus</i> STEJN.
75	<i>parasiticus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	74 <i>Rissa tridactyla pollicaris</i> RIDGW.
77½	<i>parasiticus</i> (LINN.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	77 <i>Diomedea abatratus</i> PALL.
80	<i>pomarinus</i> (TEMM.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	78 <i>nigripes</i> AUD.
80	<i>Oceanodroma leucorhoa</i> (VIEILL.).	<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	79 <i>Fulmarus glacialis gypsischa</i> STEJN. = <i>P. pacifica</i> AUD.
68½		<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	81½ <i>Puffinus griseus</i> (G MEL.).
69		<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	83 <i>tenuirostris</i> (TEMM.).
73		<i>Olor erygnus</i> (LINN.).	32 <i>Anser segetum middendorffi</i> (SEV.).	81 <i>Oceanodroma furcata</i> (G MEL.).

\* Numbers refer to Blakiston and Poyer's Catalogue, Transactions of the Asiatic Society of Japan, 1882. The interrogation mark (?) against the number signifies uncertainty in determination. The nomenclature is that adopted in the Check List of the American Ornithologists' Union, 1886.

## (2) SEA-BIRDS PECULIAR TO THE NORTH PACIFIC.

	Only on the Asiatic side.	Common to both sides.	Only on the American side.
2		<i>Lunda cirrhata</i> PALL. (a)	
3		<i>Fratercula corniculata</i> NAUM. (b)	
4		<i>Simochrychus cristatellus</i> (PALL.). (c)	
5		<i>pygmaeus</i> (G MEL.).	
6		<i>pusillus</i> (PALL.).	
5½		<i>Cyclorhynchus psittaculus</i> (PALL.). (d)	
13		<i>Cerorhinca monocerata</i> (PALL.). (e)	
8		<i>Synthliboramphus antiquus</i> (G MEL.).	<i>Pygchoramphus aleniticus</i> (PALL.). (h)
9½		<i>Brachyramphus kitahizi</i> BRANT. (g)	<i>Brachyramphus hypoleucos</i> XANTUS. <i>marinatus</i> (G MEL.). <i>craveri</i> (SALVAB.).
10½		<i>Cephus columba</i> PALL.	<i>Urimator pacificus</i> (LAWR.).
11		<i>Uria troile californica</i> (BRANT). (j)	<i>Phalacrocorax dilophus circinatus</i> (BRANT). <i>albociliatus</i> RIDGAW.
12		<i>lomvia arca</i> (PALL.). (k)	<i>penicillatus</i> (BRANT). <i>pelagicus robustus</i> RIDGW.
58		<i>Phalacrocorax urile</i> (G MEL.). (m)	<i>Sterna elegans</i> GAMB. <i>albiflca</i> BARR. <i>nelsoni</i> HENSH. <i>occidentalis</i> AUD. <i>californicus</i> LAWR. <i>heermanni</i> CASS.
59		<i>pelagicus</i> PALL. (n)	<i>resplendens</i> (AUD.).
67		<i>Larus glaucescens</i> NAUM.	
70		<i>schistisagus</i> STEIN. (q)	
68		<i>cachinnans</i> PALL.	
74		<i>Rissa tridactyla pollicaris</i> RIDGW. (r)	
77		<i>brovirostris</i> BRUGL.	
78		<i>Diomedea albatrus</i> PALL. <i>nigripes</i> AUD.	
79		<i>Fulmarus glacialis glupischa</i> STEIN. (t)	<i>Fulmarus glacialis redgersii</i> (CASS.).
81½		<i>Puffinus griseus</i> (G MEL.). (oo)	<i>Puffinus creatopus</i> COUES. (y) <i>gavia</i> (FOUST.). <i>cinereus</i> (G MEL.).
83		<i>tennirostris</i> (TEMME.). (z)	<i>Æstelata</i> FISHERI RIDGW. <i>Halocyptena nitrosoma</i> COUES. <i>Oceanodroma melania</i> (BONAP.). <i>homochroa</i> (COUES.).
81		<i>Oceanodroma furcata</i> (G MEL.).	
7		<i>Synthliboramphus wumizusume</i> (TEMME.). (f)	
10		<i>Cephus carbo</i> PALL. (i)	
57½		<i>Phalacrocorax capillatus</i> TEMME. (l)	
75½		<i>Fregata miuor</i> (G MEL.). (o)	
62		<i>Sterna sinensis</i> G MEL.	
63		<i>cauteschatica</i> PALL.	
65		<i>Larus crassirostris</i> VIEILL.	
72		<i>Kantschatchensis</i> BONAP. (p)	
76		<i>Diomedea derogata</i> SWINH. (s)	
82		<i>Puffinus leucomelas</i> (TEMME. & SCHL.). (u)	
82½		<i>carmelipes</i> GOULD. (v)	
		Swinhoe, included in his "Revised Catalogue of the Birds of China," <i>Sterna melanaruchen</i> TEMME., <i>Sterna peccanoides</i> KING, <i>Larus saundersi</i> SWINH., <i>Larus brunneirostris</i> JERDON, <i>Thalassidroma monorhis</i> SWINH.	

## REFERENCES FROM TABLE OF SEA-BIRDS PECULIAR TO THE NORTH PACIFIC.

- (a) In Japan, only on Yezo and the Kurils.
- (b) In Japan, only on the Kurils.
- (c) In Japan, only on Yezo and the Kurils.
- (d) In Japan, only on the Kurils.
- (e) Has not been found north of Yezo in Japan, and was not obtained by Mr. Stejneger in Kamtschatka, though he has included it in his "Synopsis of the Birds reported to inhabit Kamtschatka" (Bull. U. S. National Museum, No. 29, 1885), on the authority of Dr. Dybowski. On the American coast it breeds as far south as California, ranging to Lower California in winter.—A. O. U. Check List, p. 78.
- (f) This, like the preceding species, is only found in Japan, in Yezo and the south, and is not included in the Kamtschatkan list. It was given in the "American Ornithologists Union Check List" as "from Washington Territory northward," but this it appears was an error which has been pointed out by Mr. Stejneger (vide antea, p. 524). The nearly allied species *S. antiquus* is a more northern bird.
- (g) Japan collections contain no examples from the Kurils, and Mr. Stejneger missed this species at the Commander Islands. He has lately, however, received a bird from Kamtschatka which he considers *B. perdix* PALL., which hitherto has been used as a synonym of *B. marmoratus*, and he believes Japan specimens will be referable to that species.
- (h) Mr. Stejneger considers the record of this species too uncertain to include it as an inhabitant of Kamtschatka. *B. craveri* and *B. hypoleucus* are both southern species, and not likely to occur on the Asiatic side.
- (i) *Cephus carbo* seems, as Mr. Stejneger remarks, "to be restricted to a very limited area." Its occurrence on the eastern shore of Kamtschatka is uncertain, while in Japan it is only determined with certainty on Yezo, all Kuril specimens being *C. columba*.
- (j) (k) These are both of somewhat uncertain determination in Yezo and the Kurils, some specimens having been referred to Brünnich's Guillemot of the Atlantic, and lately Mr. Seebohm ("Ibis," 1885, p. 364) mentions "an almost complete series" of intermediate forms. Mr. Stejneger's conclusions on his Bering Island examples, however, leave no doubt as to the two Pacific sub-species being there.
- (l) Of this cormorant Mr. Seebohm says ("Ibis," 1885, p. 271): "I have skins of five adults, besides those of several immature birds. The dated adults are Amoy, February; Amoy, April; Hakodadi, February \* \* \*. Like the Common Cormorant, it has fourteen tail-feathers, but it is a slightly larger bird; the gorget is profusely streaked with greenish black, and the scapulars and wing-coverts are bronzy green, narrowly margined with black, as in the Shag."
- (m) (n) Both these species were obtained by Mr. Stejneger on the Commander Islands, and are included in the Japan list. *P. perspicillatus* PALL. has been omitted, as Mr. Stejneger considers it exterminated from those islands.
- (o) This species should possibly not figure in a list of peculiar North Pacific birds, depending, as it does, only on a single specimen obtained on Yezo. It is represented on the American Pacific coast by *Fregata aquila* (LINN.), which also inhabits the Atlantic.
- (p) This has appeared in Japan lists until now as *L. delawarensis* ORD and *L. niveus* PALL., but Mr. Stejneger, after a critical examination and comparison of his specimens collected in Kamtschatka, arrives at this name as the correct one, saying: "This Asiatic form is in some respects intermediate between *delawarensis* and *californicus*."
- (q) Mr. Stejneger believes the Japan bird No. 70 to be the Pacific representative of *L. marinus* of the Atlantic, described by him from Kamtschatka in The Auk, 1884, p. 231, as *L. schistisagus*, which occurs also in Alaska.
- (r) The Pacific Kittiwake, pointed out by Mr. Stejneger as a sub-species from Kamtschatka, includes that of the Pacific American coast, and doubtless that of Japan.

The Red-legged Kittiwake, *R. brevirostris*, was also obtained by him on Bering Island, but has not been collected in Japan.

(s) This name is retained on the Japan list pending an absolute decision as to whether it is the young of *D. albatrus*.

(t) Japan specimens only from the Kurils, consequently Mr. Stejneger's sub-specific name for his Commander Islands birds has been adopted.

(u) (v) In Japan not farther north than Yezo.

(w) In Japan specimens from the Kurils only.

(x) This is the only Shearwater recorded from Kamtschatka. In Japan it has been found only on the Middle Island.

(y) The three Shearwaters here given as confined to the American coast, are all southern species.

It may be as well, perhaps, also to append hereto some few notes referring to species not appearing in the second table, rendered necessary by the progress of ornithological research.

In the first place the Razor-bill (*Alca torda* LINN.) of the Atlantic has hitherto headed the Japan lists as "No. 1," but as it rests solely on the authority of the "Fauna Japonica," and is otherwise unrecorded from the Pacific, it is now omitted.

No. 10. The Sooty Guillemot, while confined to the Asiatic side of the Pacific, is unrepresented by a corresponding species on the American coast, unless we consider *Cepphus mandtii* (LICHT.) of the Arctic regions, found in Alaska, as taking its place, which is doubtfully included among the birds of Kamtschatka. (See Stejneger's "Results," Bull. U. S. National Museum, No. 29, 1885.)

No. 14. The Grebes are poorly represented in Kamtschatka by *C. auritus* and *C. holballii*, which Mr. Stejneger considers only as occasional stragglers at the Commander Islands. In Japan no specimens have been obtained on the Kurils or other outlying islands.

No. 21. An authentic specimen of *Olor bewicki* has been collected in Japan by Mr. Jouy. Mr. Stejneger obtained a young Swan on Bering Island which he has placed as the North American *O. columbianus* (ORD) = *americanus* Sharpless.

No. 22. Mr. Stejneger remarks (Bull. U. S. National Museum, No. 29, 1885): "The state of things in regard to the species of geese of Eastern Asia is in a deplorable condition." So far as Japan is considered this cannot be gainsaid. In the first place *A. segetum* was identified by Swinhoe ("Ibis," 1875, p. 456), but it was always believed that there was a larger form also in Japan, as well as in China, where Swinhoe included it in his "Revised Catalogue" (P. Z. S., 1871) as var. *serrirostris*. Mr. Stejneger seems convinced that the two forms do exist, and attributes specimens now in the United States National Museum collected by him at Bering Island to the larger, which he decides to be *A. segitum middendorffi* Severz. (= *A. grandis* Midd.), although he hesitates to include Swinhoe's *serrirostris*. In the present list, therefore, a number has been interpolated as 22½? to represent the larger form in Japan.

No. 23?. The Pink-footed Goose as an inhabitant of Japan rests only on an identification made by Swinhoe ("Ibis," 1875, p. 456), of a speci-

men which is missing ("Amended List of the Birds of Japan," London, January, 1884).

No. 24. In the present list this name has been changed, and appears in the fourth column, as Mr. Stejneger has identified his specimen from Bering Islands so; and he remarks: "Schlegel has already pointed out that the Japanese white-fronted geese belong to the large American form" *gambeli*, which, however, he says can be considered "only a race or sub-species of *albifrons*, while the latter may be regarded as specifically distinct from *erythropus*." The examination of a large number of specimens will be necessary before a point like this can be decided, as both forms may occur in Japan.

No. 26. It may be that this species will have to be split up into two races according to size, as with the White-fronted and Bean Goose.

No. 35. There is little to remark on the true fresh-water ducks, but it may be mentioned that Nos. 31, 32, 33, and 34 are not known from Kamtschatka, and 40 and 42 are somewhat doubtful, while but a single species, *Mareca americana* (GMEL.), outside the Japan list, has occurred, which Mr. Stejneger considered a storm-blown bird that he found dead on Bering Island.

No. 44. This duck is considered the representative in Eastern Asia of the Lesser Scaup of North America, while No. 43 is the true Large Scaup of the Palæartic Region, represented in America by *A. marila nearctica*, given a sub-specific distinction by Mr. Stejneger. In this division of the ducks, Nos. 44, 46, and 47 of the Japan list are wanting in Kamtschatka. On the other hand, the Buffle-headed Duck, *C. albeola* (LINN.), of the American continent, the Pacific Eider *S. v-nigra* (GRAY), and the King Eider, *S. spectabilis* (LINN.), which are found on the peninsula or the adjacent Commander Islands, are unknown in Japan. It should be noted likewise that, although Nos. 50 and 51 are on the Japan list, they are confined to the north, the former not having been found south of Yezo, while the only examples of the latter are from the Kuril Islands.

No. 52. Regarding the Scoters inhabiting the eastern coasts of Asia, the black-winged sub-genus may be disposed of by saying that the American species, *O. americana* (SW. & RICH.), is that found in Japan and Kamtschatka, *O. nigra* (LINN.) of Europe not having occurred. The Surf Scoter, *Oidemia (Pelionetta) perspicillata* (LINN.), may also be got out of the way by mentioning that it has not been found on the western shores of the Pacific. There remain, therefore, the two white-winged species, placed in the sub-genus *Melanitta*, but known as *Oidemia fusca* (LINN.) and *deglandi* BONAP. (= *velvetina* CASSIN), the specific distinction between which is limited (?) to a slight difference in the bill. While the first is European, with accidental (?) occurrence on the American continent, the other is North American, unknown in Europe. The question is what are the East Asiatic birds, and do they embrace both species? Mr. Stejneger has, without hesitation, referred his Bering Isl-



and specimens to *O. deglandi*, and has also done the same with an example in the U. S. National Museum from Shanghai. In China, Swinhoe considered *O. fusca* as the common species there, while he notes a single specimen of the American form as an exception ("Ibis," 1875, p. 457). At the same time he determined Japan examples as *O. fusca*, and Mr. Whitely's specimens were likewise so placed ("Ibis," 1867, p. 208). Other authorities for *O. fusca* in East Asia are quoted by Mr. Stejneger in his "Results of Ornithological Explorations," p. 176, and he remarks:

The probability then being that the latter (*O. fusca*) occurs more to the northward and along the western shore of the Okotsk Sea to China, while *O. deglandi* reaches from Alaska across the Aleutian chain to Kamtschatka, the Kurils, and Japan, where it winters and meets *O. fusca* proper, sometimes even traveling as far as China, while, on the other hand, a stray individual of *O. fusca* occasionally finds its way to Alaska.

Careful comparison of further examples from Japan is necessary to clear up this question.

No. 54. Respecting the Mergansers it is only necessary to note that all those known in Japan are inhabitants of Kamtschatka; but only one reaches the American shore.

No. 62. This is the representative in Eastern Asia of *S. minuta* LINN. of Europe. The North Pacific is rather scantily supplied with Terns, but Mr. Stejneger obtained the Arctic Tern, *S. paradisæa* BRÜNN. (= *maerura* NAUM.), in Kamtschatka, which consequently ought to occur in Japan.

No. 65. This gull, which is so abundant in Japan, has not occurred in Kamtschatka, nor does it frequent any part of the American coast, so that it is probably confined to the temperate and semi-tropical parts of Eastern Asia, being, according to Swinhoe, "a common winter gull on the South China coast."

No. 73. In addition to the lettered references to the second table as to the gulls, it will be only necessary to say that Japan and Kamtschatkan specimens of *L. ridibundus* have been compared and found to agree by Mr. Stejneger, who seems inclined to share the opinions of Cassin and Middendorff, that the Eastern bird is larger than the European.

No. 75. The three Skuas found in Japan, which are circumpolar birds, are recorded by Stejneger and Dybowski, from Bering and Copper Islands, off the coast of Kamtschatka.

No. 80. The two Stormy Petrels in the Japan list were the only species found by Mr. Stejneger at Bering and Copper Islands.

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